

Application No.: 10/533,459

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Docket No.: 63139(47992)

REMARKS

Claims 30 and 31 have been added. No new matter has been added by virtue of those new claims. For instance, support for the new claims appears e.g. at Table 6 on pages 60-65 of the application.

Applicants respectfully request reconsideration of the Restriction Requirement as set forth in the Office Action of December 20, 2007. In particular, it is believed all claims can be considered at this time without undue burden.

In this regard, enclosed are copies of the International Search Report and International Preliminary Examination Report of the present application, where *all claims were considered*.

Consideration of all claims at this time also will save significant time and expense that would be associated with pursuing multiple divisional applications.

Reconsideration of the Restriction is earnestly solicited.

In any event, to provide a complete response, Applicants elect Group I, which includes claims 3-5, 9-16, 20-24 and 28-29, as that group is defined in the Office Action. Group I also includes new claims 30 and 31.

As a specific combination (species), Applicants elect the sequences of claim 31.

Early consideration and allowance of the application are earnestly solicited.

Application No.: 10/533,459

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Docket No.: 63139(47992)

Respectfully submitted,

By 

Peter F. Corless

Registration No.: 33,860

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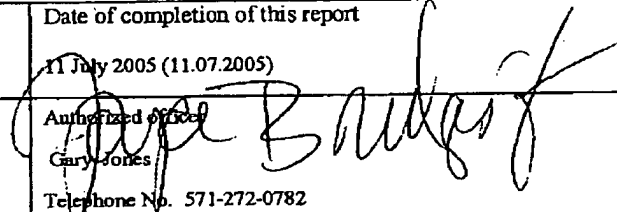
Attorneys/Agents For Applicant

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 03514.108	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US03/34787	International filing date (day/month/year) 03 November 2003 (03.11.2003)	Priority date (day/month/year) 04 November 2002 (04.11.2002)
International Patent Classification (IPC) or national classification and IPC IPC(7): C12Q 1/68; C07H 21/04 and US Cl.: 435/6, 91.2, 536/23.1, 24.3		
Applicant THE UNITED STATES OF AMERICA, AS REPRESENTED BY THE SECRETARY OF HEALTH AND HUMAN SERVICES, NIH		
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>3</u> sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of <u>—</u> sheets.</p>		
<p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the report</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of report with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability, citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input type="checkbox"/> Certain observations on the international application</p>		
Date of submission of the demand 28 May 2004 (28.05.2004)	Date of completion of this report 11 July 2005 (11.07.2005)	
Name and mailing address of the IPEA/US Mail Stop PCT, Attn: IPBA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230	Authorized official  Gary Jones Telephone No. 571-272-0782	

Form PCT/IPEA/409 (cover sheet)(July 1998)

I. Basis of the report

1. With regard to the elements of the international application:*

- ☒ the international application as originally filed.
- ☒ the description:
pages 1-74 as originally filed
pages NONE filed with the demand
pages NONE filed with the letter of _____
- ☒ the claims:
pages 77-82 as originally filed
pages NONE as amended (together with any statement) under Article 19
pages NONE filed with the demand
pages NONE filed with the letter of _____
- ☒ the drawings:
pages 1-7 as originally filed
pages NONE filed with the demand
pages NONE filed with the letter of _____
- ☒ the sequence listing part of the description:
pages 75-76 as originally filed
pages NONE filed with the demand
pages NONE filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☒ contained in the international application in printed form.
- ☒ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages NONE
- ☐ the claims, Nos. NONE
- ☐ the drawings, sheets/fig NONE

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

Form PCT/IPEA/409 (Box I) (July 1998)

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. STATEMENT**

Novelty (N)	Claims <u>4, 5, 13, 14, 28, 29</u>	YES
	Claims <u>1-3, 6-12, 15-27</u>	NO
Inventive Step (IS)	Claims <u>NONE</u>	YES
	Claims <u>1-29</u>	NO
Industrial Applicability (IA)	Claims <u>1-29</u>	YES
	Claims <u>NONE</u>	NO

2. CITATIONS AND EXPLANATIONS

Claims 1-3, 6-12 and 15-27 lack novelty under PCT Article 33(2) as being anticipated by Gugger et al. (Jml of Path.).

Gugger et al. teach the quantitative expansion of structural genomic alteration in the spectrum of neuroendocrine lung carcinomas and thereby teach a method for determining whether a candidate cell is a neuro-endocrine tumor cell, wherein said method comprises the steps of: determining the profile of expression of a plurality of genes of said candidate cell (Her2/neu absent) and further comprising such determined profile of expression with the profile of expression of said genes of small cell lung cancer cell, a large cell neuroendocrine carcinoma cell, a typical carcinoid tumor or an atypical carcinoid tumor cell; to thereby determine whether said genes of small cell lung cancer cell, a large cell neuroendocrine carcinoma cell, atypical carcinoid tumor or an atypical carcinoid tumor cell; to thereby determine whether said candidate cell is a neuroendocrine tumor cell (throughout reference).

Claims 4, 5, 13, 14, 28 and 29 lack an inventive step under PCT Article 33(3) as being obvious over Gugger et al. in view of Bangur et al. Gugger et al. teach the quantitative expansion of structural genomic alteration in the spectrum of neuroendocrine lung carcinomas and thereby teach a method for determining whether a candidate cell is a neuro-endocrine tumor cell, wherein the method comprises the steps of: determining the profile of expression of a plurality of genes of said candidate cell (Her2/neu absent) and further comparing such determined profile of expression with the profile of expression of said genes of small cell lung cancer cell, a large cell neuroendocrine tumor cell (throughout reference). Gugger et al. do not teach the limitations of claims 4, 5, 13, 14, 28 and 29. However, Bangur et al. teach the one or more genes selected from the group consisting of claim 4 and 5's listing.

Claims 1-29 meet the criteria set out in PCT Article 33(4), and thus meet industrial applicability because the subject matter claimed can be made or used in industry.

Form PCT/IPEA/409 (Box V) (July 1998)

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NOTE OF INFORMAL COMMUNICATION WITH THE APPLICANT

(PCT Rule 66.6)

International application No. PCT/US03/34787	Applicant's or agent's file reference 03514.108	Date of informal communication (day/month/year) 25 July 2005 (25.07.2005)
Applicant		

<u>Communication</u> <input checked="" type="checkbox"/> by telephone <input type="checkbox"/> personal	<u>Participants</u> <input type="checkbox"/> Applicant: THE UNITED STATES OF AMERICA, AS REPRESENTED BY THE SECRETARY OF HEALTH AND HUMAN SERVICES, NIH <input type="checkbox"/> Agent: <input type="checkbox"/> Examiner(s): Sally Sakelaris	<input checked="" type="checkbox"/> Identity checked <input type="checkbox"/> authorization checked <input type="checkbox"/> personally known
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Summary of communication:

Annap Agrawal was contacted and informed the examiner that they were not planning on responding to the 408, so that they had no problem with waiving the 408 and proceeding directly to the 409.

- ☐ An extension of time limit is granted (Form PCT/IPEA/427).
- ☒ A copy of this note is being sent to the applicant with Form PCT/IPEA/429.

PCT/IPEA/424.

Name and mailing address of the IPEA/US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230 Form PCT/IPEA/428 (July 1992)	Authorized officer Sally Sakelaris Telephone No. 571-272-1600
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PATENT COOPERATION TREATY

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JAN 22 2008

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 03514.108	FOR FURTHER ACTION	see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.
International application No. PCT/US03/34787	International filing date (day/month/year) 03 November 2003 (03.11.2003)	(Earliest) Priority Date (day/month/year) 04 November 2002 (04.11.2002)
Applicant THE UNITED STATES OF AMERICA AS REPRESENTED BY THE SECRETARY OF HEALTH AND HUMAN SERVICES, NIH		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 3 sheets.



It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the Report

- a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.



the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:



contained in the international application in written form.



filed together with the international application in computer readable form.



furnished subsequently to this Authority in written form.



furnished subsequently to this Authority in computer readable form.



the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.



the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2. ☐ Certain claims were found unsearchable (See Box I).

3. ☐ Unity of invention is lacking (See Box II).

4. With regard to the title,



the text is approved as submitted by the applicant.



the text has been established by this Authority to read as follows:

5. With regard to the abstract,



the text is approved as submitted by the applicant.



the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No. _____



as suggested by the applicant.



because the applicant failed to suggest a figure.



because this figure better characterizes the invention.



None of the figures

Form PCT/ISA/210 (first sheet) (July 1998)

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/34787

A. CLASSIFICATION OF SUBJECT MATTER																						
IPC(7) : C12Q 1/68; C07H 21/04																						
US CL : 435/6 91.2; 536/23.1, 24.3																						
According to International Patent Classification (IPC) or to both national classification and IPC																						
B. FIELDS SEARCHED																						
Minimum documentation searched (classification system followed by classification symbols)																						
U.S. : 435/6 91.2; 536/23.1, 24.3																						
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched																						
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)																						
STN:Medline Biosis Caplus, OMIM, PubMed																						
C. DOCUMENTS CONSIDERED TO BE RELEVANT																						
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.																				
X	BANGUR et al. Identification of genes over-expressed in small cell lung carcinoma using suppression subtractive hybridization and cDNA microarray expression analysis. <i>Oncogene</i> . 2002, Vol. 21, pages 3814-3825, entire document.	1-3, 9-11, 20-21																				
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Y		4-8, 12-19, 22-29																				
X	GUGGER et al. Quantitative expansion of structural genomic alterations in the spectrum of neuroendocrine lung carcinomas. <i>Journal of Pathology</i> . 2002, Vol. 196: pages 408-415, entire document.	1-3, 6-12, 15-27																				
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Y		4, 5, 13, 14, 28, and 29																				
X	VIRTANEN et al. Integrated classification of lung tumors and cell lines by expression profiling. <i>Proc. Natl. Acad. Sci.</i> September 2002, Vol. 99, pages 12357-12362, entire document.	1-3, 6-12, 15-27																				
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Y		13, 14, 28, and 29																				
Y	YAO et al. Human gamma-glutamyl hydrolase: Cloning and characterization of the enzyme expressed in vitro. <i>Proc. Natl. Acad. Sci., USA</i> . 17 September 1996, Vol. 93, pages 10134-10138, entire document.	4,5, 13, 14, 28, and 29																				
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.																						
* Special categories of cited documents: <table border="0"> <tr> <td>"A"</td> <td>document defining the general state of the art which is not considered to be of particular relevance</td> <td>"T"</td> <td>later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</td> </tr> <tr> <td>"E"</td> <td>earlier application or patent published on or after the international filing date</td> <td>"X"</td> <td>document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</td> </tr> <tr> <td>"L"</td> <td>document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</td> <td>"Y"</td> <td>document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</td> </tr> <tr> <td>"O"</td> <td>document referring to an oral disclosure, use, exhibition or other means</td> <td>"&"</td> <td>document member of the same patent family</td> </tr> <tr> <td>"P"</td> <td>document published prior to the international filing date but later than the priority date claimed</td> <td></td> <td></td> </tr> </table>			"A"	document defining the general state of the art which is not considered to be of particular relevance	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention	"E"	earlier application or patent published on or after the international filing date	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone	"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art	"O"	document referring to an oral disclosure, use, exhibition or other means	"&"	document member of the same patent family	"P"	document published prior to the international filing date but later than the priority date claimed		
"A"	document defining the general state of the art which is not considered to be of particular relevance	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention																			
"E"	earlier application or patent published on or after the international filing date	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone																			
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art																			
"O"	document referring to an oral disclosure, use, exhibition or other means	"&"	document member of the same patent family																			
"P"	document published prior to the international filing date but later than the priority date claimed																					
Date of the actual completion of the international search		Date of mailing of the international search report																				
12 November 2004 (12.11.2004)		01 DEC 2004																				
Name and mailing address of the ISA/US		Authorized officer																				
Mail Stop PCT, Attn: ISA/US		Sally Sarelaris																				
Commissioner for Patents		Telephone No. 571-272-0500																				
P.O. Box 1450																						
Alexandria, Virginia 22313-1450																						
Facsimile No. (703) 305-3230																						

Form PCT/ISA/210 (second sheet) (July 1998)

INTERNATIONAL SEARCH REPORT

PCT/US03/34787

C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	SCHEMA et al. Parallel human genome analysis: Microarray-based expression monitoring of 1000 genes. Proc. Natl. Acad. Sci., USA. October 1996, Vol. 93, pages 10614-10619, entire document..	13, 14, 28, and 29

Form PCT/ISA/210 (second sheet) (July 1998)